

REMARKS

Favorable reconsideration of this application is respectfully requested in view of the following remarks.

Claims 1-4, 6-14 and 16-28 are pending in this application. Claims 1, 14 and 28 are the only independent claims. By this Amendment, Claims 1, 9 and 14 are amended, and Claim 15 is canceled without prejudice. Support for the amendment to independent Claim 1 can be found, for example, on page 4, lines 37-39 of the specification. Support for the amendment to independent 14 can be found, for example, in the lone figure and on page 3, lines 14-22 and 30-33 of the specification. No new matter is added.

The Official Action first rejects Claims 14-17 and 25 under 35 U.S.C. §102(b) over U.S. Patent No. 5,503,872 to MacKenzie et al. ("MacKenzie").

Independent Claim 14 is directed to a device for providing a substrate with a coating layer of a polymeric material. The device comprises mixing equipment arranged to suspend a pulverous polymeric material in a fluid, pressurizing equipment arranged to pressurize said fluid, and at least one nozzle operatively connected to the pressurizing equipment and arranged to eject the suspension of polymeric material in fluid towards the substrate. The device further includes first heating equipment arranged to heat the polymeric material upstream of the at least one nozzle, and second heating equipment arranged downstream of the at least one nozzle to heat the suspension of polymeric material ejected from the at least one nozzle before reaching the substrate to a temperature above the softening temperature of the polymeric material and below the melting temperature of the polymeric material.

MacKenzie discloses a plastic coating apparatus for coating a substrate. As shown in Fig. 1 of MacKenzie, the apparatus includes an application gun 32 that sprays a thermoplastic laden stream of hot air onto the surface 36 of a substrate 38. The application gun 32 includes an inlet port 40 for receiving powdered thermoplastic material from a fluid bed 48 via pump 42. The powdered thermoplastic material is heated inside the gun 32 with hot air generated in an upstream combustion chamber 10. The Official Action takes the position that the gun 32 has a nozzle corresponding to the claimed nozzle, and that the combustion chamber 10 corresponds to the claimed heating equipment.

However, MacKenzie's combustion chamber 10 ("heating equipment") is provided *upstream* of the gun 32 as shown in Fig. 1 of MacKenzie. Further, the thermoplastic material is mixed with the hot air generated in the combustion chamber 10 *inside* the gun 32, as discussed above. That is, MacKenzie fails to disclose heating equipment arranged **downstream of** the nozzle of the gun 32 to heat the thermoplastic material ejected from the nozzle before reaching the substrate 38.

Because of the arrangement of the claimed second heating equipment, liquid is evaporated from the suspension jet before the suspension reaches the surface of the substrate, and the polymer particles of the polymeric material are softened at least on their surface, as discussed in lines 20-22 on page 4 of the specification. As a result, the claimed device is able to coat a more sensitive surface than MacKenzie's apparatus is capable of coating. Thus, MacKenzie fails to disclose the claimed configuration and the resulting benefits. Therefore, independent Claim 14 is patentable over MacKenzie for at least the above reasons.

Claims 16, 17 and 25 are patentable over MacKenzie at least by virtue of their dependence from patentable independent Claim 14. Thus, a detailed discussion of

the additional distinguishing features recited in these dependent claims is not set forth at this time. Withdrawal of the rejection is respectfully requested.

The Official Action next rejects Claims 1-4, 6-8, 10-13, 18-24 and 26-28 under 35 U.S.C. §103(a) over MacKenzie in view of U.S. Patent No. 5,021,259 to Singelyn.

Independent Claims 1 and 28 each define a method of providing a substrate comprising a *fiber based layer* with a coating layer of a polymeric material.

According to the method, the substrate comprising the fiber based layer is coated with a heated suspension of polymeric material.

MacKenzie describes in lines 62-65 of column 2 that the hot air stream from the upstream combustion chamber 10 heats the powdered thermoplastic material inside the gun 32 to its fusion temperature. The Official Action takes the position that the fusion of the powdered thermoplastic material occurs at a temperature between the material's softening temperature and melting temperature. However, MacKenzie discloses the fusion temperature ranges from 850° F to 2300° F. These temperatures would destroy a fiber based layer such as recited in independent Claims 1 and 28. Thus, it cannot be said that MacKenzie's coating method is applied to a substrate comprising a fiber based layer.

Further, Singelyn fails to cure this deficiency of MacKenzie. The fluoroelastomer coated metal surface in Singelyn is heated in an oven at temperatures ranging from 750° F to 800° F (see col. 4, lines 22-51 of Singelyn). These temperatures also would destroy a fiber based layer.

Therefore, the combination of MacKenzie and Singelyn fails to disclose, and would not have rendered obvious, the method recited in independent Claims 1 and 28. Therefore, independent Claims 1 and 28 are patentable over MacKenzie and Singelyn for at least the reasons discussed above.

Claims 2-4, 6-8, 10-13, 18-24, 26 and 27 are patentable over MacKenzie and Singelyn at least by virtue of their dependence from patentable independent Claim 1. Thus, a detailed discussion of the additional distinguishing features recited in these dependent claims is not set forth at this time. Withdrawal of the rejection is respectfully requested. Withdrawal of the rejection is respectfully requested.

The Official Action also rejects Claim 9 under 35 U.S.C. §103(a) over MacKenzie in view of Singelyn, and further in view of U.S. Patent Application Publication No. 2003/0215644 A1 to Desphande et al. ("Desphande"). The rejection is respectfully traversed.

Claim 9 is patentable over the applied references at least by virtue of its dependence from patentable independent Claim 1. Thus, a detailed discussion of the additional distinguishing features recited in this dependent claim is not set forth at this time. Withdrawal of the rejection is respectfully requested.

Should any questions arise in connection with this application or should the Examiner believe that a telephone conference with the undersigned would be helpful in resolving any remaining issues pertaining to this application the undersigned respectfully requests that he be contacted at the number indicated below.

Respectfully submitted,

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